

VEHICLE DIMENSIONING · OHVD · CLASSIFICATION

Falcon

Measure, Classify, Identify & Record Every Vehicle

Falcon is an advanced single sensor system that measures vehicle height, length, speed, lane position, and direction of travel in real time — generating a 3D point cloud record that is verifiable and time stamped for every event. Overview cameras are standard; LPR cameras and USDOT readers are available as optional modules. Falcon deploys as fixed roadside infrastructure or on portable trailer systems, and supports wrong-way detection and warning applications.

Solid-State

LIDAR PLATFORM

70m

MAX RANGE

30FPS

FRAME RATE

24/7

ALL WEATHER

TWO MISSION PACKAGES

Falcon OVH — Over-Height Detection & Warning

Detects over-height vehicles and warns drivers before bridge strikes — fusing LiDAR, high-resolution imaging, and analytics into an auditable record for every flagged event. Purpose-built for highways, tunnels, and low-clearance structures.

Falcon VCS — Vehicle Classification System

Real-time FHWA classification into 15 categories (13 official classes + 2 client-defined) with axle counting and ± 5 mph speed measurement — all from a single roadside LiDAR at posted speeds.

KEY CAPABILITIES

Vehicle Measurement Records

Captures vehicle height and length, along with speed, lane, direction, and a time-stamped record for each vehicle.

Verifiable Events

Real-time 3D point clouds and imagery provide accurate visual verification for every event.

Camera Suite

Overview standard; LPR and USDOT reader modules optional.

Open API Integration

Dimension, class, and event data feeds to roadside & central systems.

OPTIONAL FEATURES

LICENSE PLATE RECOGNITION

USDOT IDENTIFICATION

FHWA 13-CLASS CLASSIFICATION

AXLE COUNTING

AXLE SPACING

WRONG-WAY DETECTION

TYPICAL APPLICATIONS

Bridge Strike Prevention

Over-height detection & advance warning for low-clearance structures

Vehicle Classification

FHWA classes, axle counts & spacing

Wrong-Way Detection

Ramp & mainline monitoring

Freight Corridors

Volume, class & speed analytics

SINGLE SENSOR SCANNING



One sensor, every vehicle. Falcon can be mounted to existing roadside infrastructure and uses long-range LiDAR to scan passing vehicles at highway speed. No in-pavement equipment is required.



Falcon sensor unit. Sealed enclosure engineered for continuous roadside operation in all weather conditions.

FALCON WEB PORTAL

HYPOINT										
VEHICLES ARRIVE VEHICLES DEPART LAST VEHICLE										
Start	Lane	Driving Direction	Category	Speed (m/h)	Width (ft/in)	Height (ft/in)	Length (ft/in)	Axles	License plate	
06/12/2020 10:57:40 AM	0	0	Tractor Trailer Combo	44.0	8'4 3/4"	13'3"	75'5 3/4"	4	148738	
06/12/2020 10:58:10 AM	0	0	Tractor Trailer Combo	38.7	8'5 1/8"	13'4 1/4"	72'7 3/4"	4	034005	
06/12/2020 10:58:33 AM	0	0	Tractor Trailer Combo	45.9	8'4 3/8"	13'3 1/8"	73'2 1/8"	4		
06/12/2020 10:58:28 AM	0	0	Tractor Trailer Combo	56.2	8'4 1/8"	13'4 3/4"	73'9 1/2"	4	010115	
06/12/2020 10:59:07 AM	0	0	Tractor Trailer Combo	39.0	8'4 5/8"	13'5 3/8"	68'3 1/2"	4	082570	
06/12/2020 10:59:03 AM	0	0	Tractor Trailer Combo Low Loaded	40.4	8' 3/4"	10'9 7/8"	76'3 1/2"	5	38430X	
06/12/2020 10:59:53 AM	0	0	Tractor Trailer Combo	36.0	8'4 5/8"	13'5"	77'1 7/8"	4	084006	
06/12/2020 10:59:41 AM	0	0	Tractor Trailer Combo Low Loaded	43.2	8'1"	12'9 3/4"	68'9 5/8"	5	02082P	

Vehicle classification & event list. Time stamped records with license plate, speed, lane, classification, axle count, and measured height and length, each linked to imagery and point cloud data. See page 2 for the full portal and reporting suite.

DATA ACCESS & REPORTING

Web Portal & Daily Site Reports

Every Falcon measurement is available in the secure HyPoint web portal — searchable, filterable, and linked to its photos and 3D point cloud — and summarized in automated daily site reports delivered for each location.

MEASUREMENT ARCHIVE & LIVE VIEW

Measurement records. Search and filter every event by date, class, height, length, speed, and axles. Each record links the overview photo, USDOT photo and number, and the interactive 3D point cloud of the vehicle — with one-click CSV export and a live view of measurements as they happen.

Dashboard analytics. Operational summaries of oversized-vehicle counts, speed and time-of-day distributions, and key activity metrics, with interactive sorting and filtering.

PORTAL CAPABILITIES

Live & Archive Views

Watch measurements in real time or search the full history

Photo & Point Cloud Linked

Every record carries imagery, USDOT capture & interactive 3D

One-Click Export

Filtered CSV export for analysis & records requests

Secure Multi-Site Access

Role-based logins across all your monitored locations

DAILY SITE REPORTS

HYPOINT SOLUTIONS

Traffic Monitoring Status Report

Location 146 – Sunday, July 5, 2026
Prepared for the Wisconsin Department of Transportation

Executive Summary

HyPoint's continuous roadside monitoring installation at Location 146 recorded **8,946 vehicles** over the full 24-hour period of Sunday, July 5, 2026. Traffic volume ran approximately 28 percent below the June 2026 all-days daily average of 12,606 — a pattern fully consistent with the Independence Day holiday weekend rather than any change in roadway conditions or equipment performance. The sensor operated without interruption: all 24 hours of the day returned measurement data.

The hourly profile shows the expected holiday signature. Overnight activity from midnight through 2:00 AM ran well above baseline as July 4 celebrations dispersed, the weekday commuter peak was absent, and afternoon volumes tracked below the June average while preserving a normal daily curve shape. Vehicle speeds and the classification mix remained within normal ranges throughout.

Hourly Traffic Volume vs. June Baseline

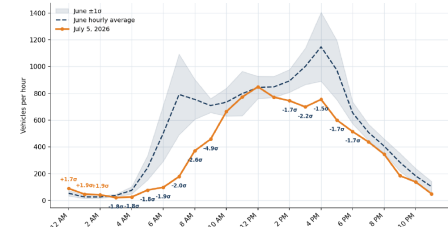


Figure 1. Hourly vehicle counts for July 5, 2026 (orange) against the June 2026 hourly average (dashed) with a ± 1 standard deviation band (shaded). Annotated values indicate hours deviating from baseline by 1.5 standard deviations or more.

Summary Statistics

Metric	July 5 (full day)	June 2026 Baseline
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HyPoint Solutions | Continuous Traffic Monitoring

Page 1

DOT-ready daily reporting. An automated status report for each site summarizes the day's traffic volumes, hourly distribution, speeds, classifications, and notable events — with system-health confirmation — ready to file or forward each morning.

Every Report Includes

- ▶ Daily & hourly traffic volumes vs. baseline
- ▶ Speed statistics and distributions
- ▶ Vehicle classification breakdown
- ▶ Notable events & dimension outliers
- ▶ System-health & data-quality confirmation

RAPID-DEPLOY VEHICLE MEASUREMENT

Optional Portable Trailer Platform

Fully Self-Contained. Solar Powered. On Site in Hours.



Trailer-mounted deployment. Solar array and telescoping mast in operating position on the shoulder — measuring, classifying, and recording every vehicle the day the trailer arrives, with no trenching, permanent power, or fixed infrastructure.

Falcon is available as a fully integrated trailer-mounted solution designed for rapid deployment at temporary or evolving locations. The platform includes the Falcon LiDAR measurement system, overview camera, communications, and optional solar power. The trailer can be deployed within hours and relocated between sites, making it ideal for classification studies, work zones, detours, seasonal monitoring, pilot projects, and emergency response deployments.

IDEAL USES

- ▶ Short-term classification studies
- ▶ Construction & work zones
- ▶ Temporary detours
- ▶ Seasonal freight monitoring
- ▶ Pilot projects
- ▶ Emergency response deployments

Measure where and when it is needed.

Falcon's portable trailer platform lets agencies collect vehicle measurement data at emerging locations, construction projects, and temporary roadway conditions without installing permanent infrastructure. The system can be relocated between sites as operational needs change.

WHY THE TRAILER PLATFORM MATTERS

On Site in Hours

Deployed within hours; no permanent infrastructure required

Relocatable

Move measurement between sites as needs change

Self-Contained

Sensor, power, communications & camera on one chassis

Solar Powered

Optional off-grid solar for continuous operation

VEHICLE DIMENSIONING, OHVD & CLASSIFICATION

Falcon Specifications & Capabilities

LIDAR SPECIFICATIONS

Sensor Platform	Solid-State LiDAR
Maximum Observable Range	70 m
Field of View (H×V)	80° × 22°
Angular Resolution (H & V)	0.4°
Frame Rate	Up to 30 FPS
Number of Returns	2 returns per pixel
Laser Wavelength	940 nm
Laser Safety	Class 1 (eye-safe)
Communication Interface	1000Base-T Ethernet
Operating Voltage	9–20 VDC
Power Consumption	Typical 9.5–10.5 W
Environmental Protection	IP65 Rated

Specifications are presented as HyPoint system specifications. Sensor models and hardware configurations are matched to roadway geometry, speed environment, power availability, and project objectives.

Optional Portable Trailer Platform

- ▶ Integrated Falcon measurement system
- ▶ Overview camera; optional LPR / USDOT modules
- ▶ Cellular communications
- ▶ Optional solar power package
- ▶ Remote monitoring and diagnostics
- ▶ Rapid deployment and relocation
- ▶ No permanent infrastructure required

Deployment & Support

The system includes automated calibration capabilities when deployed at a new location, minimizing setup time and reducing field configuration requirements. HyPoint provides remote technical support during deployment and relocation to assist with system verification, calibration, and operational testing.

Open Integration

Open API feeds Falcon data into state agency systems, ATIS platforms, 511 systems, traveler information systems, and your existing ITS, tolling, permitting, and enforcement platforms.

FALCON AT A GLANCE

Feature / Capability	Falcon
Primary Application	Dimensioning, OHVD, Classification
Sensor Configuration	Single LiDAR
Height Detection	Yes
Length Measurement	Yes
Speed Detection	Yes
Direction of Travel	Yes
Lane Detection	Yes
Vehicle Classification	Optional
FHWA 13-Class Classification	Optional
Wrong-Way Detection & Warning	Yes
Over-Height Warning Integration	Yes
Trigger Warning Signs / Beacons	Yes
Vehicle Overview Images	Yes
Point Cloud Visualization	Yes
Web-Based Data Portal	Yes
Time Stamped Vehicle Records	Yes
LPR / USDOT Camera Integration	Yes
USDOT Identification	Optional
Open API Integration	Yes
WIM Scale Integration	Yes
Multi-Lane Support	Yes
Portable Trailer Deployment	Yes
Solar Power Integration	Optional
Edge Processing / Cloud Access	Yes
Typical Deployment Type	Fixed or portable

LEGEND **Yes** = standard **Optional** = module / config — = not available

Let's talk about your roadway.

Application review, site assessment, and system recommendation at no cost — configured for your roadway geometry, speed environment, and operational objectives.

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